

B – Revised Abstract

Please delete the current abstract and substitute it by the following:

The invention relates to a method of determining parameters R_t , R_{xo} , and d_i of formations through which a borehole passes, on the basis of a resistivity log (20) recorded in said borehole by means of a measuring and recording tool. This method includes the steps of determining the boundaries between the geological layers of the formation, selecting homogeneous observable magnitudes for each geological layer, based on the recorded log selecting from the recorded log, determining for each geological layer pseudo-parameters by a quasi-Newton inversion method implemented on the observable magnitudes, computing the physical magnitudes R_{xo} , R_t and d_i from said pseudo-parameters to define a model of the formation, calculating the response of the tool based on this model and iterating the process, starting from the selection of observable magnitudes if a comparison criterion is not satisfied.